



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/901,317	07/09/2001	Alexandros Biliris	2000-0280-CON	9040

7590 05/19/2006

Mr. S H Dworetsky
AT&T CORP.
Room 2A-207
One AT&T Way
Bedminster, NJ 07921

EXAMINER

JEAN GILLES, JUDE

ART UNIT	PAPER NUMBER
----------	--------------

2143

DATE MAILED: 05/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/901,317

Applicant(s)

BILIRIS ET AL.

Examiner

Jude J. Jean-Gilles

Art Unit

2143

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) Claims 3, 4, 6-18, 20, 22, and 24-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) Claims 3, 4, 6-18, 20, 22, and 24-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

This Action is in regards to the Reply received on 04/14/2006. Claims Priority is granted from Provisional Application 60203546 with a priority filing date of 05/12/00.

Response to RCE

1. This action is responsive to the RCE application filed on 04/14/2006. Claims 3, 4, 6-18, 20, 22, and 24-28 remain pending. Claims 1, 2, 5, 19, 21, and 23 having been canceled without prejudice or disclaimer. Claims 3, 4, 6-18, 20, 22, and 24-28 remain pending and represent a method and apparatus for a "Method and apparatus for content distribution network brokering and peering."

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3, 4, 6-18, 20, 22, and 24-28 remain pending are rejected under 35 U.S.C. 103(a) as being unpatentable over Joffe et al (Joffe) U.S. patent No. 6,518,619, in view of Grove et al (Grove) U.S. 6,820,133 B1.

Regarding claim 3: Joffe teaches the invention substantially as claimed. Joffe teaches a method of serving content in a packet-switched network comprising:
choosing from a plurality of content distribution networks which content

distribution network will respond to a content request from a client (*column 10, lines 48-67; column 11, lines 24-42*);

redirecting the client to the chosen content distribution network so that the content request will be served by the chosen content distribution network (*column 11, lines 24-42; column 13, lines 31-46*), wherein

"one of the plurality of content distribution networks is chosen only if a measured load of the one of the plurality of content distribution networks does not exceed a predetermined capacity reserved on the one of the plurality of content distribution networks". However, Joffe does not specifically disclose this limitation of the claim.

In the same field of endeavor, Grove teaches "...a *Content Distribution service includes a redirection or interception service. When a web user (using a client such as a browser) requests content from a site, and the content is known or suspected to be cached at one or more CD nodes, the request is directed (or comes to be redirected) to some CD node that is "close" to the user. The notion of closeness is a measure of communications performance, and in particular can use such metrics as bandwidth capacity, bandwidth cost, latency, security, administrative boundaries, administrative convenience, and current congestion on various network paths. The technologies for choosing a close CD node and then directing requests to the chosen node are varied, but the field is still new and there is still considerable ongoing innovation* [see Grove, column 3, lines 9-22; column 12, lines 32-49; note that the closeness here can be used in terms of the bandwidth capacity which is a minor variation in the art).

Accordingly, it would have been obvious to one of ordinary skill in the networking art at the time the invention was made to have incorporated Grove's teachings of choosing a Content Distribution only if a measured load of the one of the plurality of content distribution networks does not exceed a predetermined capacity reserved with the teachings of Joffe, for the purpose of increasing tolerance of faults occurring in the underlying hardware and reliability over prior art web servers as stated by Joffe in lines 4-9 of column 4. Grove also provides motivation to combine by stating that this approach will improve the performance of Internet communications, particularly communication between web clients and web servers, which does not require significant computer resources..." in lines 57-62 of column 4. By this rationale, **claim 3** is rejected.

Regarding claim 4: the combination Joffe-Grove teaches the method of claim 3 wherein the content distribution network is chosen based, at least partly, determination of which of the plurality of the content distribution networks is close to the client (see Grove, column 3, lines 9-22; column 12, lines 32-49).

Regarding claim 6: the combination Joffe-Grove teaches the method of claim 3, wherein the content to be served by the chosen content distribution network comprises content embedded in a document to be served to the client, and wherein redirecting the client to the chosen content distribution network further comprises rewriting references to the embedded content before serving the document to the client [see Joffe, column 13, lines 1-46].

Regarding claim 7: The combination Joffe-Grove teaches the method of claim 6 wherein the reference to the embedded content is rewritten to point to a server in the chosen content distribution network [see *Joffe*, column 13, lines 1-46].

Regarding claim 8: The combination Joffe-Grove teaches the method of claim 6 wherein the reference to the embedded content is rewritten to point to a domain name served by the content distribution network [see *Joffe*, column 10, lines 47-65].

Regarding claim 9: The combination Joffe-Grove teaches teach the method of claim 6 wherein the reference to the embedded content is rewritten so that an original reference may be readily parsed from a corresponding one of the rewritten reference (see *McCanne*; column 8, lines 40-65).

Regarding claim 10: The combination Joffe-Grove teaches the method of claim 9 wherein the chosen content distribution network utilizes the corresponding one of the rewritten references to obtain the embedded content if the chosen content distribution network does not have an up-to-date copy of the embedded content in a cache (see *Grove*; column 14, lines 4-30).

Regarding claim 11: The combination Joffe-Grove teaches the method of claim 3 wherein the step of redirecting the client to the chosen content distribution network further comprises resolving domain name system queries resolve to content served by the chosen content distribution network [see *Joffe*, column 10, lines 47-65].

Regarding claim 12 The combination Joffe-Grove teaches the method of claim 11 further comprising answering the domain name system queries are answered with a

Art Unit: 2143

network address of content served by the chosen content distribution network (see *Grove*; column 14, lines 31-54).

Regarding claim 13: The combination Joffe-Grove teaches the method of claim 11 comprising answering the domain name system queries with a network address of a domain name system server responsible for the chosen content distribution network [see *Joffe*, column 10, lines 47-65].

Regarding claim 14: The combination Joffe-Grove teaches the method of claim 11 comprising answering the domain name system queries are answered with a domain name of content served by the chosen content distribution network (see *Grove*; column 14, lines 4-54).

Regarding claim 15: The combination Joffe-Grove teaches the method of claim 11 comprising forwarding the domain name system queries to a domain name server responsible for the chosen content distribution network and which directly answers the domain name system queries (see *Grove*; column 14, lines 4-54).

Regarding claim 16: The combination Joffe-Grove teaches the method of claim 3 wherein the content distribution network serves the content request from a local cache and wherein the content distribution network has access to a second copy of the content if there is a cache miss (see *Grove*; column 24, lines 37-67).

Regarding claim 17: The combination Joffe-Grove teaches the content distribution method of claim 16 wherein the content distribution network includes a table of associations between references to content served by the content distribution

network and references to a second copy of the content served from elsewhere in the network [see *Joffe*, column 13, lines 1-46].

Regarding claim 18: The combination Joffe-Grove teaches the method of claim 16 wherein the content distribution network can transform references to content served by the content distribution network into second references to a second copy of the content served from elsewhere in the network (see *Grove*; column 524, lines 50-67).

Regarding claim 20: The combination Joffe-Grove teaches the brokering domain name server of claim 22 wherein the predetermined policy reflects a chosen content distribution network and redirection mechanism for each of a plurality of regions of client network addresses (see *Grove*; column 24, lines 37-67; column 6, lines 1-44).

Regarding claim 22: The combination Joffe-Grove teaches a brokering domain server comprising:

a domain name system engine which is capable of answering domain name system queries from a client [see *Joffe*, column 10, lines 47-65]; and

a policy module which directs the domain name system engine to answer the domain name system queries in accordance with a predetermined policy which resolves a domain name to a server in a content distribution network chosen from a plurality of content distribution networks [see *Grove*; column 14, lines 4-54] wherein:

the policy module further comprises an interface to information received from the plurality of content distribution networks and wherein the policy module modifies the

predetermined policy in response to the information [see *Grove*; *column 14, lines 4-54*]
and

the information further comprises load information and wherein the
predetermined policy reflects capacity reserved on each of the plurality of content
distribution networks (see *Joffe*; *column 5, lines 45-59*).

Regarding claim 24: The combination Joffe-Grove teaches a method of
redirecting content requests between content distribution networks (*column 5, lines 38-44*), comprising :

receiving a request for a document which contains one or more embedded
content references [see *Joffe*, *column 13, lines 1-46*];

retrieving the document[see *Joffe*, *column 13, lines 1-46*];

choosing one out of a plurality of content distribution networks to serve the
embedded content [[see *Grove*; *column 24, lines 37-67*; see *Grove*; *column 14, lines 4-54*;].

rewriting the document so that the embedded content references point to content
stored at the chosen content distribution network [see *Grove*; *column 14, lines 4-54*; and

transmitting the rewritten document (see *Joffe*; *column 3, lines 22-25*).

Regarding claim 25: The combination Joffe-Grove teaches a system
comprising:

means for choosing a content distribution network from a plurality of content
distribution networks for responding to a content request from a clients[see *Joffe*,
column 13, lines 1-46]; and

means for redirecting the client to the chosen content distribution network so that the content request will be served by the chosen content distribution network (see Joffe; *column 13, lines 31-46*),
wherein

the means for choosing a content distribution network from a plurality of content distribution networks for responding to a content request from a client is configured to choose a content distribution network only if a measured load of the content distribution network does not exceed a predetermined capacity reserved on the content distribution network [see Grove; *column 24, lines 37-67*; see Grove; *column 14, lines 4-54*;].

Regarding claim 26: The combination Joffe-Grove teaches the system of claim 25. wherein:

the content to be served by the chosen distribution network comprises content embedded in a document to be served to the clients [see Joffe, *column 13, lines 1-46*];
and

the means for redirecting the client to the chosen content distribution network so that the content request will be served by the chosen content distribution network (see Joffe; *column 13, lines 31-46*),
further comprises:

means for rewriting references to the embedded content before serving the document to the client [see Grove; *column 24, lines 37-67*].

Regarding claim 27: The combination Joffe-Grove teaches the system of claim 25, further comprising:

means for serving content from a local cache (see *Grove*; column 24, lines 37-67; see *Grove*, column 3, lines 9-22; column 12, lines 32-49); and

means for serving content from a second copy of the content when the means for serving content from a local cache experiences a cache miss (see *Grove*; column 24, lines 37-67; see *Grove*, column 3, lines 9-22; column 12, lines 32-49;).

Regarding claim 28: The combination Joffe-Grove teaches the system of claim 27, further comprising:

means for transforming references to content served by the content distribution network into second references to the second copy of the content served from

elsewhere in the network [see *Grove*; column 24, lines 37-67; see *Grove*; column 14, lines 4-54].

Conclusion

4. Accordingly, **THIS ACTION IS MADE NON-FINAL**. Any inquiry concerning this communication or earlier communications from examiner should be directed to Jude Jean-Gilles whose telephone number is (571) 272-3914. The examiner can normally be reached on Monday-Thursday and every other Friday from 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley, can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3719.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Jude Jean-Gilles

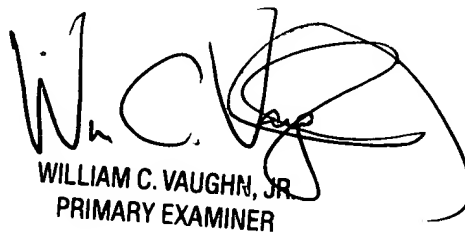
Patent Examiner

Art Unit 2143

JJG



May 1, 2006



WILLIAM C. VAUGHN, JR.
PRIMARY EXAMINER